

NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

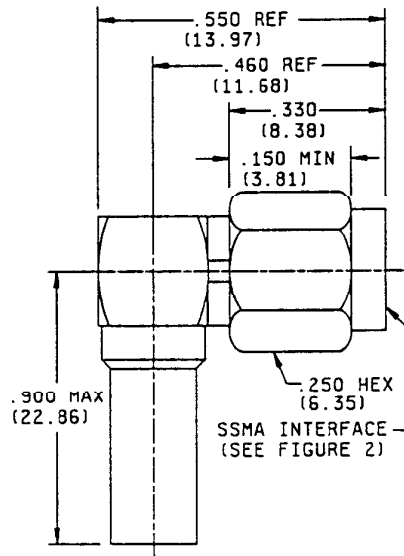
INCH-POUND  
MIL-PRF-39012/140  
27 June 1989

#### PERFORMANCE SPECIFICATION SHEET

#### CONNECTOR, PLUG, ELECTRICAL, SERIES SSMA, PIN CONTACT, RIGHT ANGLE, FOR FLEXIBLE CABLE

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-PRF-39012.



#### NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Metric equivalents are in parentheses.
4. Wrench flats to accommodate standard wrench opening in accordance with FED-STD-H28, appendix 10.
5. All undimensioned pictorial representations are for reference purposes only.
6. Dimension .900 (22.86 mm) defines the maximum overall length of the connector when assembled to the cable.
7. Unless otherwise specified, tolerances are  $\pm .005$  (0.13 mm).
8. Coupling nut is to be passivated corrosion resisting steel in accordance with MIL-PRF-39012.
9. Safety wire holes, three holes equally spaced .018 (0.45 mm)  $\pm .004$  (0.10 mm),  $\pm .002$  (1.29 mm) inch diameter.

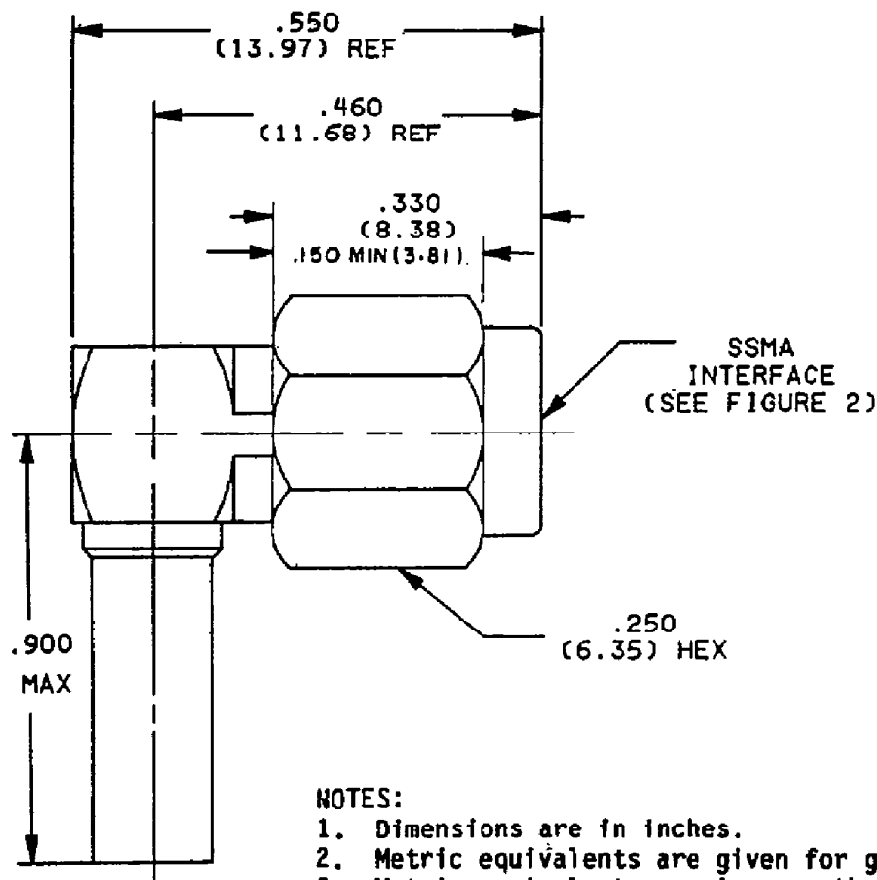
FIGURE 1. General configuration.

MILITARY SPECIFICATION SHEET

CONNECTOR, PLUG, ELECTRICAL, SERIES SSMA, PIN CONTACT,  
RIGHT ANGLE, FOR FLEXIBLE CABLE

This specification is approved for use by all Departments and Agencies of the Department of Defense.

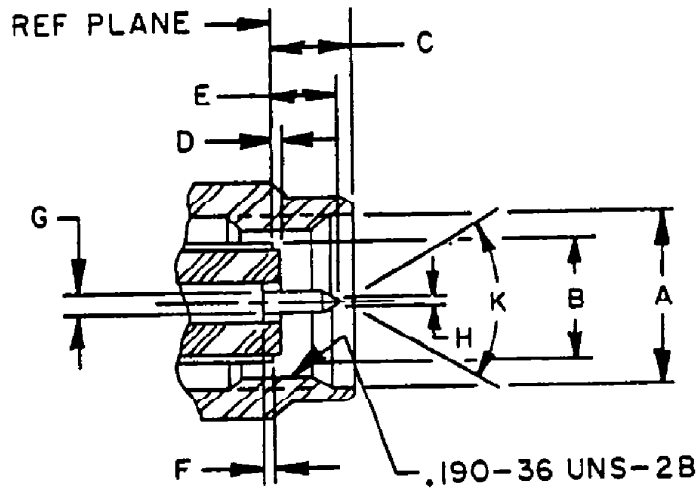
The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-C-39012.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Metric equivalents are in parentheses.
4. Wrench flats are to accommodate standard wrench opening in accordance with FED-STD-H28, appendix 10.
5. All undimensioned pictorial representations are for reference purposes only.
6. Dimension .900 (22.86 mm) defines the maximum overall length of the connector when assembled to the cable.
7. Unless otherwise specified, tolerances are  $\pm .005$  (0.13 mm).
8. Coupling nut is to be passivated corrosion resisting steel in accordance with MIL-C-39012.
9. Safety wire holes, three holes equally spaced .018 (0.45 mm)  $\pm .004$  (0.10 mm),  $-.002$  (1.29 mm) inch diameter.

FIGURE 1. General configuration.



Letter	Minimum		Maximum	
	Inches	mm	Inches	mm
A dia	.196	4.98	.202	5.13
B dia	.124	3.15	.1268	3.221
C	.100	2.54	.133	3.38
D	-.005	-0.13	.002	0.05
E	.050	1.27	.065	1.65
F	.000	0.00	.010	0.25
G dia	.0195	0.495	.0208	0.528
H dia	.000	0.00	.010	0.25
K	70°		95°	

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

FIGURE 2. Mating dimensions for pin terminations.

TABLE 1. Dash number and applicable cable.

Dash no. <u>1/2/3/</u>	Applicable cable <u>4/</u>
CATEGORY A - FIELD SERVICEABLE <u>5/</u> (NO SPECIAL TOOLS REQUIRED)	
3001 3101 <u>6/</u> 4001 4101 <u>6/</u>	M17/113-RG316*, M17/119-RG174, M17/94-RG179, M17/172-00001, M17/173-00001, M17/196-00001
CATEGORY C - FIELD REPLACEABLE (MIL-C-22520 CRIMP TOOL) <u>7/ 8/</u>	
3002 3102 <u>6/</u> 4002 4102 <u>6/</u>	M17/113-RG316*, M17/119-RG174, M17/94-RG179, M17/172-00001, M17/173-00001, M17/196-00001

\* Cable to be used when performing tests requiring cable.

1/ These connectors have captivated center contacts.

2/ For logistics purposes, only connectors with safety wire holes will be stocked.

3/ Coupling nuts shall be corrosion-resistant steel with a passivated finish per MIL-F-14072. (Applies to "-3XXX" series connectors only.)

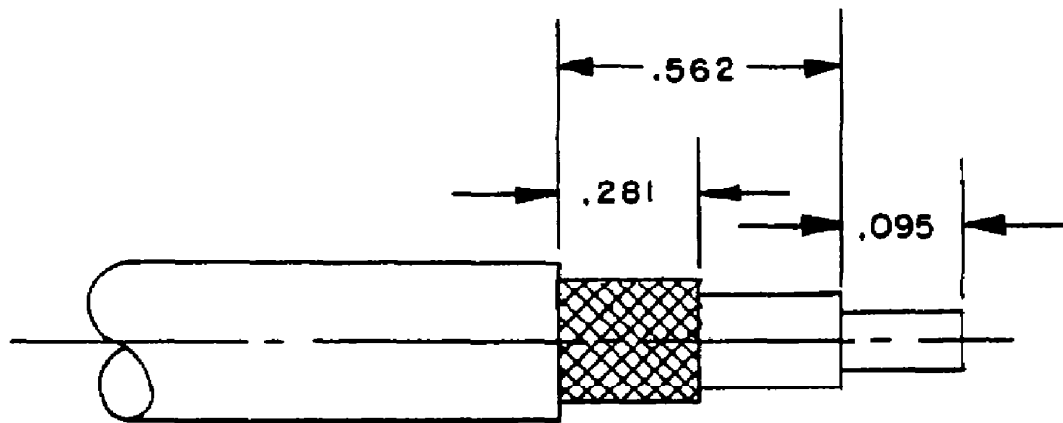
4/ MIL-C-17 cables are specified by the basic number. The latest version of each cable shall be applicable.

5/ All corrosion-resistant, steel-bodied connectors shall be gold-plated per MIL-G-45204, type II, class 1.

6/ No safety wire holes.

7/ These connectors are assembled, using the applicable crimp tool, to the specified cables stripped as shown on figure 3.

8/ Preferred die M22520/5-03, closure A.



Inches	mm
.095	2.41
.281	7.14
.562	14.27

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances shall be  $\pm .005$  (0.13 mm).

FIGURE 3. Cable stripping dimensions of field replaceable connectors.

## ENGINEERING DATA:

Nominal impedance: 50 ohms.

Frequency range: 0 to 35 GHz.

Voltage rating:

250 volts rms at sea level.

60 V rms at 70,000 feet.

Operating temperature: -65°C to +165°C.

## REQUIREMENTS:

Dimensions and configurations: See figures 1 and 2.

Force to engage and disengage:

Longitudinal force: Not applicable.

Torque: 2 inch-pounds maximum.

Coupling proof torque: 15 inch-pounds minimum.

Recommended mating torque: 2 inch-pounds.

Hermetic seal: Not applicable.

Leakage (pressurized connectors): Not applicable.

Center contact retention: 4 pounds minimum.

Radial torque: Not applicable.

Voltage standing wave ratio (VSWR):  $1.10 + .015F$  (F in GHz)dB, maximum.

Moisture resistance: Method 106, MIL-STD-202, no measurements at high humidity. Insulation resistance shall be at least 200 megohms within 5 minutes after removal from humidity.

Contact resistance: In milliohms, maximum:

	<u>Initial</u>	<u>After environment</u>
Center contact	4.0	4.0
Outer contact	2.0	Not applicable
Outer conductor to body	0.5	Not applicable

Dielectric withstanding voltage at sea level: 750 V rms minimum.

Vibration, high frequency: Method 204, test condition D, MIL-STD-202.

Corona level:

Altitude: 70,000 feet, 190 V rms minimum.

Shock (specified pulse): Method 213, test condition I, MIL-STD-202.

Thermal shock: Method 107, test condition B, MIL-STD-202, except test high temperature shall be +85°C.

Barometric pressure (reduced): Not applicable.

RF high potential withstanding voltage: 500 V rms minimum.

Frequency: 5 MHz.

Leakage current: Not applicable.

Cable retention force: 20 pounds minimum.

Torque: 16 inch-ounces minimum.

Coupling mechanism retention force: 60 pounds minimum.

RF leakage:  $-90 + F$  (F in GHz)dB, minimum.

RF insertion loss:  $.04\sqrt{F}$ , GHz dB, maximum.

NOTE: These parts are for use in general radio frequency applications.

NOTE: This specification sheet supersedes DESC drawing 86120 when a QPL source is obtained.

Part or Identifying Number (PIN): M39012/140- (dash number from table I).

#### CONCLUDING MATERIAL

Custodians:  
Army - CR  
Navy - EC  
Air Force - 85  
NASA - NA

Preparing activity:  
Army - CR

Agent:  
DLA - ES

Review activities:  
Army - AR, MI  
Navy - OS, SH  
Air Force - 11, 17, 99

(Project 5935-3665-08)

User activities:  
Army - AT  
Navy - AS, MC, SH  
Air Force - 19